

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently amended): A method of manufacturing elements of relatively small size, comprising:

- unwinding a wound sheet, then
- optionally, printing this sheet at least partly on at least one side, and then
- cutting deeply right through the sheet by a succession of at least ~~two~~ first and second cutting patterns, wherein the first cutting pattern constitutes a pattern that does not form a detached element, and wherein the first and second cutting patterns ~~that~~ intersect so as to constitute a resulting pattern that forms a detached element constituting the element of relatively small size, this cutting operation taking place by means of a succession of first and second synchronized cutting cylinders each carrying at least one respective cutting thread that cuts one of the first and second cutting patterns respectively, said first and second cutting cylinders being in succession along a conveying path of the sheet, at least one anvil cylinder being interposed between these cutting cylinders, the sheet passing between ~~all these cylinders~~ the first cutting cylinder and the at least one anvil cylinder so as to form the first cutting pattern, then between the second cutting cylinder and the at least one anvil cylinder so as to form the second cutting pattern that intersects the first cutting pattern, and
- recovering the detached elements that form said elements of relatively small size are recovered.

2. (Previously presented): The method as claimed in claim 1, wherein the steps are carried out in line.

3. (Previously presented): The method as claimed in claim 2, wherein it is carried out at a speed of between 20 and 150 m/min.

4. (Previously presented): The method as claimed in claim 1, wherein said sheet is a sheet of paper, a sheet of nonwoven or a sheet of plastic, or a complex of these materials.

5. (Previously presented): The method as claimed in claim 1, wherein the sheet is printed by flexography.

6. (Previously presented): The method as claimed in claim 1, wherein the sheet is printed in an amount of 1 to 10 g/m² per side.

7. (Previously presented): The method as claimed in claim 1, wherein the sheet is printed on only one side.

8. (Previously presented): The method as claimed in claim 1, wherein the sheet is printed on both its sides in succession by front/back registration.

9. (Previously presented): The method as claimed in claim 1, wherein said sheet has a thickness of between about 5 and 110 μm .

10. (Previously presented): The method as claimed in claim 1, wherein the detached elements are recovered by stripping.

11. (Previously presented): The manufacturing method as claimed in claim 1, wherein the largest dimension of the detached element is between 0.5 and 6 mm.

12. (Currently amended): A method of cutting out elements of relatively small size, comprising:

- providing a sheet,
- cutting deeply right through said sheet, continuously, by a succession of at least ~~two~~ first and second cutting patterns, wherein the first cutting pattern constitutes a pattern that does not form a detached element, and wherein the first and second cutting patterns ~~that~~ intersect so as to constitute a resulting pattern that forms a detached element constituting the element of relatively small size, this cutting operation taking place using a succession of synchronized first and second cutting cylinders each carrying at least one respective cutting thread that cuts one of the first and second cutting patterns respectively, said first and second cutting cylinders being in succession along a conveying path of the sheet, at least one anvil cylinder being interposed

between these cutting cylinders, the sheet passing between the first cutting cylinder and the at least one anvil cylinder so as to form the first cutting pattern, then between the second cutting cylinder and the at least one anvil cylinder so as to form the second cutting pattern that intersects the first cutting pattern so as to form the detached elements that constitute said elements of relatively small size.

13. (Currently amended): A device for cutting out elements of relatively small size, wherein it comprises:

_____ a rotary cutting device comprising a succession of synchronized first and second cutting cylinders having respective cutting threads, said first and second cutting cylinders being in succession along a conveyance path of a sheet to be cut, ~~anvil cylinders~~ at least one anvil cylinder being interposed between these cutting cylinders, the cutting threads on the cylinders being complementary so as to form at least ~~two~~ first and second cutting patterns,

_____ wherein the first cutting pattern constitutes a pattern that does not form a detached element, and wherein the first and second cutting patterns ~~that~~ intersect so as to constitute a resulting pattern that forms a detached element from the sheet when the cutting cylinders rotate in a synchronized manner and when suitably adjusted,

_____ so that, when the sheet passes between the first cutting cylinder and the at least one anvil cylinder so as to form the first cutting pattern, then between the second cutting cylinder and the at least one anvil cylinder so as to form the second cutting pattern that intersects the first cutting pattern, the detached elements that constitute said elements of relatively small size are formed.

14. (Previously presented): The cutting device as claimed in claim 13, wherein each cutting cylinder is a magnetic cylinder covered with a magnetizable flexible plate retained by demagnetization forces, bearing the cutting threads, which are electrochemically etched.

15. (Previously presented): The cutting device as claimed in claim 14, wherein it includes a base anvil cylinder.

16. (Previously presented): A device for manufacturing elements of relatively small size, wherein it includes a reel holder, a printing device, with at least one printing unit, and a cutting device as claimed in claim 13.

17. (Previously presented): The device as claimed in claim 16, wherein it includes a printing device having at least two printing units with a set of bars for turning the sheet over between the units.

18. (Previously presented): The device as claimed in claim 16, wherein it includes a printing unit having at least two printing units with a device for reversing the rotation of one of the printing units.

19. (Previously presented): The manufacturing device as claimed in claim 16, wherein it includes, after the cutting device, a stripping device.

20. (Previously presented): The manufacturing device as claimed in claim 16, wherein it includes an antistatic treatment device.

21. (Previously presented): A security element of relatively small size, wherein it is obtained using the manufacturing method of claim 1 and it includes identification patterns observable to the naked eye.

22. (Previously presented): The security element as claimed in claim 21, wherein it includes patterns chosen from patterns visible in natural light, patterns visible under UV light, luminescent patterns, fluorescent patterns, phosphorescent patterns, patterns detectable by near infrared radiation, patterns detectable by intermediate infrared radiation, thermochromic patterns, piezochromic patterns, patterns based on DNA tracers, patterns that are optically variable, iridescent patterns, patterns based on liquid crystals, patterns based on diffraction gratings, moiré patterns, holograms, electromagnetic patterns, and combinations thereof.

23. (Previously presented): The security element as claimed in claim 21, wherein it includes, beneath or alongside said patterns, printing of electromagnetic character.

24. (Previously presented): The security element as claimed in claim 21, wherein it includes chemical authentication reactants or reactants that reveal a specific event.

25. (Previously presented): A security element of relatively small size, wherein it is obtained using the manufacturing method of claim 1, and wherein the shape of said element is a security characteristic.

26. (Previously presented): A security sheet comprising a fibrous substrate which includes at least one security element of relatively small size obtained using the manufacturing method of claim 1.

27. (Previously presented): A decorative sheet comprising a fibrous substrate, which includes at least one decorative element of relatively small size obtained using the manufacturing method of claim 1.

28. (Original): A security document comprising, as base, a sheet as claimed in claim 26.

29. (Previously presented): A package comprising a sheet as claimed in claim 26.

30. (Previously presented): A security element as claimed in claim 21, wherein the shape of said element is a security characteristic.

31. (Previously presented): A security sheet comprising a fibrous substrate which includes at least one security element as claimed in claim 21.

32. (New): The method as claimed in claim 1, wherein a single anvil is interposed between the first and second cutting cylinders.